that of the neurones; while by the action of two other genes, the two endoderm daughter-cells become specialized in directions of bone and muscle tissue respectively. We may imagine successive specializations of this sort, each due to a hitherto latent gene coming into action, until cells of every specialized kind have been formed. The problem remains to get the cells distributed into their proper places. If the adult organism consisted simply of blocks of specialized cells", a mass of brain-cells here, of liver-cells there, and of similar ceils forming a single muscle in a third place, the problem might seem not too difficult. The liver presents the easiest problem. We can imagine a mass of liver-cells generated from a single mother-cell specialized by the timely action of one or more of its genes ; so that it and all its daughter-cells become capable of the ten or more chemical operations which liver-cells perform. And we can imagine the mass of liver-cells eventually assuming the characteristic shape of the liver under the reciprocal pressures of the various surrounding tissues.

But ever}* organ, even the liver, is more than a mass of cells of one kind ; it is a mass of cells of many kinds, all interwoven in intimate and intricate fashion, not haphazardly, but in precise spatial relations, any departure from widch, beyond the minutest, would render the various cells useless. The liver is permeated in every part by arteries, veins, and capillaries, by ducts and supporting connective tissues, &c. How, then, are these

precise multitudinous spatial dispositions of the many kinds of cells effected ? We are told that the fate of each cell is a function of its position, and that this means in turn a function of the influences it receives from the surrounding cells. We cannot here appeal to substances